Carex of Concord

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Genus *Carex*, largest in the Cyperaceae, is renowned for its species richness, with more than 2000 species described worldwide. *Carex* species exhibit holocentric chromosomes, the likely culprit for remarkable diversity in chromosome number among *Carex* species.[1] In turn, this variability in chromosome number is likely responsible for the incredible diversity of this single genus.

New England hosts 195[2,3] species of *Carex*, 68 of which Angelo[4] noted as having been found and collected in Concord, Massachusetts. Interestingly, this share of New England's total *Carex* (35%) is within half a percentage point of the overall share of New England plants with vouchers for occurrence in Concord (1,231[5] of 3,520[6] or 3,570[7]).

Study of *Carex* in Concord has been spotty compared to the intense study of the rest of Concord's Flora over the past 150-200 years. Minot Pratt[8] did not list or study graminoids, and Alfred Hosmer[9] simply ignores most of the Cyperaceae. However, Thoreau spent a few years at the end of his life (mostly 1858-1860) collecting *Carex* with intensity rivaled only by his contemporary Edward Hoar. Although swaths of *Carex* species had not yet been described at that time, these two men established an impressive record of what *Carex* were present in Concord. In his *Flora of Concord*, published in 1974, Richard Eaton refers to many collections of Thoreau and Hoar and adds some of his own collections, particularly in difficult or taxonomically problematic groups such as Ovales. Eaton himself added a handful of uncommon to very rare *Carex* to the Flora. For additional information on Concord's rich botanical history, see Angelo (2016).

Ray Angelo did not focus on *Carex* in particular during his time in Concord, save the most conspicuous ones[10]. William Brace is the most recent person to take an interest in the *Carex* of Concord, collecting approximately 46 species in the years from 1995-1998. Brace apparently did not aim to be complete in his searches, as his specimens are almost entirely from the area immediately surrounding his home and one or two other locations. Furthermore, many of his identifications have yet to be verified.

The present report is the result of a season (spring 2016) of intense searching for *Carex* in Concord, Massachusetts. A single season is surely not enough time to grasp the full diversity

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[1] Hipp, 2007

[2] Angelo & Boufford, 2016

[3] Haines, 2011

[4] Angelo, 2016b

[5] Angelo, 2016b

[6] Haines, 2011

[7] Angelo & Boufford, 2016

[8] Pratt, 1878

[9] Hosmer, 1903

[10] Angelo, 2016a

Carex lacustris in Concord, the first population seen since ca. 1860

of *Carex* in Concord, and this report does not aim to be complete for that reason. Many authors, such as Henry David Thoreau, have lamented "how long some very conspicuous [flowers] may escape the most diligent walker, if [he does] not chance to visit their localities the right week or fortnight." Additionally, extremely dry weather in spring of 2016 may have affected the fertility of some populations: neighboring Bedford received just 33% of the 15-year mean combined precipitation for May, June, and July. On the other hand, this drought eased access to many wetlands. In future years, this report will likely be supplemented with additional species and populations.

Every effort was made to be as comprehensive in coverage of the Town as possible. The vast majority of areas with botanical interest were surveyed for *Carex*, some more than once. However, a few areas of botanical interest were missed due to various reasons (usually problems with access and/or private property). These are listed in Table 1. Any open space or biologically significant private space not listed can be assumed to be covered in this report.

Conantum Cliffs (including Lee's Cliff)
Mill Brook Farm (Kenney Farm) and surrounding marshes
East Half of Ministerial Swamp
Concord Country Club (most rare plants probably extirpated)
White Pond Bog and adjacent sphagnous woods
Ball's Hill and especially sphagnum mat at Ball's Swamp (42.488144, -71.322031)
Moore's Swamp
Vicinity of Hunter's Ridge Rd. and Second Division Brook
Nuclear Metals Bog

Table 1. Locations of botanical interest not covered.

Concord hosts a wide variety of habitats, with three rivers and many associated wetlands, a variety of brooks and streams, four or five intact sphagnum bogs, three deep ponds and a handful of manmade ones, many wooded swamps, and two true fens: one acidic and one circumneutral in character. Uplands are mostly forested, with *Quercus/Carya* and *Pinus strobus* dominant, but with a few pockets of *Fraxinus/Ostrya* association, *Fagus* woodland, *Tsuga* groves, and *Quercus ilicifolia/ Pinus rigida* associations. Upland soils are generally fairly acidic, though there are some patches of circumneutral soil, notably in western Estabrook Woods and also on the Marlboro Formation along the southern border of the town, where calcium ions seep into the soil from the bedrock. Wetland soils are mostly of a moderate pH near the rivers (owing to river pollution from the 1930s). Away from the rivers, pH ranges widely from acid bogs to circumneutral seeps. Calcareous woods and wetlands are lacking in Concord.

This report documents hundreds of populations of *Carex*, mostly with photographs but also with voucher specimens when a species was previously unrecorded in Concord, Massachusetts.

In general, *Carex* was found to be most diverse in moderate-pH wooded wetlands, especially where water quality is high. In particular, Well Meadow and a few wetlands in Chamberlin Woods each were home to more than twenty species. Almost the entire watersheds of both these swamps are protected by the Concord Land Conservation Trust. *Carex* was also diverse in certain open situations, such as at Old Calf Pasture and Macone Farm Lane. Each of these locations had more than 14 species. However, very similar habitat near Kaveski Farm, Willow Guzzle and other places had highly reduced diversity: just 3 or 4 common species (*C. scoparia* and *C. vulpinoidea* in higher areas and *C. lurida* the wettest areas, sometimes with *C. stipata* mixed throughout) at each location. The obvious hypothesis is that farmland within the watershed (often directly adjacent to these wet meadows) impacts the water quality and reduces suitability of the habitat. The result is reduced diversity of *Carex* species.

In upland habitats, *Carex pensylvanica* dominates open woods and is likely the most common *Carex* in Concord. On rich trailsides, rocks, cliffs, and dry circumneutral soil, *Carex* of sections Careyanae and Laxiflorae can be found. Dry, unmown grassy openings in forest are often home to unusual species such as *C. pellita*, *C. muehlenburgii*, *C. siccata*, and *C. brevior*. Members of sections Hymenochlaenae and Phaestoglochin are usually found in a variety of dry to mesic wooded habitats.

Thirteen species that have been collected in Concord were not found. Of these, two (*C. spicata* and *C. panicea*) are aliens and two (*C. prairea* and *C. exilis*) are probably extirpated. The others are either rare, very difficult to identify, or both. Nine of the species found are new to Concord since Eaton's *Flora*, of which a few are the result of taxonomic revision or confusion.

In the list below, species are grouped alphabetically by taxonomic section of genus *Carex*, and grouped in alphabetical order within each section. Taxonomy is based on *Flora of North America* (2003). Photographs are included for each species that was seen in Concord in 2016. Vouchers are listed after the species and author, using standard letter codes forherbaria.

A few terms used in the list are worth defining explicitly. Note that when quoted from different authors, the terms might have slightly different definitions.

Abundance terms:

Common: easily found almost wherever appropriate habitat exists; generally more than ten significant stations or twenty smaller stations.

Frequent: can be easily encountered by checking a small sample of appropriate habitats, but sometimes not found in seemingly suitable conditions; generally more than seven stations.

Infrequent (synonym: occasional): found in less than half of seemingly appropriate habitats, usually in small quantities where found; fewer than eight stations.

Uncommon: found in only a handful of locations (often due to specialized habitat requirements), but may be in large quantities where found; three to seven large stations.

Scarce: found in small numbers in only about two to five stations.

Rare: either found at only one station or a very few stations in one general area.

Identifying swamp types referenced here:

Acid: any wetland where sphagnum is the principal substrate, or sandy areas with a high proportion of cranberry or carnivorous plants.

Sub-acid: most wetlands in Concord: sphagnum may cover small hummocks but does not cover the ground. Typical wetland plants dominate, including cattail, iris, purple loostrife, red maple, swamp white oak, buttonbush, etc.

Circumneutral: rare in Concord; no sphagnum present (but other mosses may be), jewelweed, spicebush, sassafras, ash, witch-hazel, Christmas fern are common.

Section Acrocystis

Carex albicans Willd. ex Spreng. [NEBC: Eaton, 1959 in rich leaf mould on wooded bank, east side of Sleepy Hollow Cemetery]

> Eaton considers this species uncommon, noting it in “dry woods, shady banks, and thickets.” I found it only on rocks, at the top of Bemis Cliffs and Fairhaven Cliffs. Its presence at these two locations and absence near Bateman’s Pond suggest that it prefers relatively acidic rock.

Carex albicans, Bemis Cliffs

Carex novae-angliae Schwein. [NEBC: Eaton, 1956 at Cambridge Turnpike opposite G. Root’s (Crosby’s) Ice Pond]

> Eaton considers this rare, with which I agree. I found it only at the foot of Fairhaven Cliffs, disagreeing with Eaton’s habitat of “woods, chiefly moist.” While Eaton notes that the identity of his specimen has been questioned, it has since been confirmed by *Carex* specialist Dr. Lisa Standley. I did not cover the area where Eaton saw this species before it was too late to identify the early-fruiting Acrocystis group.

Carex novae-angliae, Fairhaven Cliffs. Too late for perigynia to be present.

Carex novae-angliae, Fairhaven Cliffs

Carex pensylvanica Lam. [NEBC: Eaton, 1936 in sterile oak woods near Goose Pond]

I found this to be very common, in agreement with Eaton. It is probably Concord's most common *Carex*, found in all xeric to mesic woodland and occasionally dry glades and rocky, open areas. It is most common in rocky, open woods. Many populations do not flower in a given year; fertile individuals are most commonly seen in rocky woods with light to moderate canopy.

Carex pensylvanica, Bateman's Cliffs

Carex umbellata Schkuhr ex Willd. [NEBC: Thoreau, no date or locality; likely 1860 at Fairhaven Cliffs from his journal]

I only found this at just one location: a small patch in mesic, fertile beech-pine forest between Lexington Road and Cambridge Turnpike. Eaton, on the other hand, considered it uncommon, occurring in "rocky woods or dry sandy soil." Perhaps it is more common in the sandy Western Quarter of Concord, where my coverage was relatively limited.

Spike of *Carex umbellata*, Woods near Palumbo Farm between Cambridge Turnpike and Lexington Road

Basal carpellate stem of *Carex umbellata*, Woods near Palumbo Farm between Cambridge Turnpike and Lexington Road

Perigynia of *Carex umbellata*, Woods near Palumbo Farm between Cambridge Turnpike and Lexington Road

Section Ammoglochin

Carex siccata Dewey [NEBC: Winstanley, 2016 on sandy slope near Fitchburg Railroad and Acton line]

> This is rare; I only found it near the intersection of the Acton town line and the Fitchburg railroad. Eaton calls it uncommon (as *C. foenea*; see note under excluded species), but it probably has decreased along with the decline of sterile, sandy, open habitats. It is more common in the northeastern part of Middlesex County. A collection by G. S. Torrey in "sandy open ground" in Acton may be related to my station, which is on an unmown, sandy, south-facing slope near the railroad. I also found this on a large Marlboro formation outcrop in woods in Sudbury, less than 300 feet from the Concord town line, so this species could occur in similar habitat in Concord, perhaps at Conantum Cliffs.

Carex siccata, near railroad and Acton town line

Carex siccata, near railroad and Acton town line

Section Anomalae

Carex scabrata Schwein. [NEBC: Hoar, July 21: head of springs at Fairyland Pond, wet bog under pines]

> I found this to be very scarce, with stations at just two spring-fed wooded wetlands: Brister's Spring and Well Meadow. At both sites, it grows with *C. leptalea*. Eaton calls it "uncommon," and Hoar found the same two sites I did.

Carex scabrata, Well Meadow

Carex scabrata, specimen from near Brister's Spring

Carex scabrata, specimen from near Brister's Spring

Section Careyanae

Carex digitalis Willd. [NEBC: Eaton, 1952 at Conantum Cliffs]

I found this to be scarce in a few spots of rocky woods and talus, including among beeches near Lexington Road, the Dogwood Peninsula in Estabrook Woods, Punkatasset Hill, below Bemis Cliffs, and near Martha's Point. Eaton also says it is "uncommon" and notes a more general habitat preference of "dry to moist, usually rich deciduous woods and glades."

Carex digitalis, talus below Bemis Cliffs

Carex laxiculmis Schwein [NEBC: Eaton, 1961 on low, rocky wooded path along east shore of Bateman's Pond]

This is common in a swath that includes Punkatasset Hill, most of Estabrook Woods, the Bateman's Pond area, the Bemis Cliffs area, and the vicinity of Annursnac Hill. Elsewhere, it is scarce; I found it only near Lexington Road and at the Willow Guzzle Reservation (in the Conantum vicinity). It prefers mesic to moist soils, particularly near seeps and rich swamps. Eaton says it is "occasional" in "rich woods and glades."

Carex laxiculmis, Estabrook Road

Carex laxiculmis, near Lexington Road Fen

Carex laxiculmis, near Lexington Road Fen

Section Ceratocystis

Carex cryptolepis Mackenzie [NEBC: Hoar at Dennis' shore in a Concord River meadow]

I did not find this. The voucher specimen was not identified until 1985, so Eaton also does not list it. This species, according to Haines, prefers acidic soils, so one would expect it to be more common than *C. flava* in Concord.

Carex flava L. [GRCH: Eaton, 1930 in meadow near Jenny Dugan Brook]

> I did not find this, though I perhaps did not have a good search image for it. Eaton calls it "uncommon" in "meadows, shores, low open ground." According to Haines, it is a calciphile, so one would expect it to be uncommon to rare in Concord. However, Thoreau mentions it four times in his journal.

Section Deweyanae

Carex bromoides Schkuhr ex Willd. [NEBC: Winstanley, 2016 along trail near Assabet River at Barrett's Mill Farm]

> Eaton lists this as unlikely in Concord, which is surprising since Thoreau notes it (as *C. polytrichoides*) at Well Meadow on June 8, 1860. In addition to finding it at Well Meadow, I saw it at Azalea Brook, near *Matteuccia* at Barrett's Mill Farm, Thoreau's Botrychium Swamp, in the ravine in Bemis Woods, and on the southern slope of Annursnac Hill.

Carex bromoides, Well Meadow

Carex bromoides, southeast corner of Barrett's Mill Farm

Carex bromoides, Azalea Brook

Section Dispermae

Carex disperma Dewey [NEBC: Thoreau, 1860 at Well Meadow]

> I only found this at Well Meadow Head, where Thoreau found it. Ray Angelo found this near White Pond Bog, which I did not cover. Eaton calls this “rare.” It occurs on shaded sphagnum.

Carex disperma, Well Meadow

Carex disperma, Well Meadow

Section Glareosae

Carex brunnescens (Pers.) Poir. [NEBC: Eaton, 1958 at east branch of Second Division Brook]

> Eaton did not find this. I saw it infrequently in a few rich, shaded swamps, including in the Chamberlin Woods, Well Meadow, north of Annursnac Hill, and near the Old Manse. It shares similar habitat and distribution in Concord to *C. bromoides* and *C. leptalea*, neither of which was seen by Eaton.

Carex brunnescens, Chamberlin Woods

Carex brunnescens, Well Meadow

Carex canescens L. [NEBC: Thoreau, 1859 at Owl Swamp]

This is common, found in any sunny situation where sphagnum is the substrate (not when sphagnum merely covers small hummocks in a swamp). It is present in all the major sphagnum bogs, with the notable exception of Gowing's Swamp. Some other examples of stations are the Andromeda Ponds and an acidic fen near Lexington Road. Eaton also says it is common.

Carex canescens, Hallenback Bog

Carex canescens, Hallenback Bog

Carex trisperma Dewey [NEBC: Thoreau, 1859 at Owl Swamp]

This is common to abundant in appropriate habitat, somewhat contradicting Eaton's simple listing of four stations. It thrives in any dark, acid swamp with at least some sphagnum, including the acidic margins of some sub-acid swamps. Large populations include a 35-acre swamp near the W. R. Grace superfund site and 40 acres of the Carlisle Swamp in northern Estabrook Woods. It also occurs along the entire length of Ministerial Swamp. It often co-occurs with *C. folliculata*. It is possible that I was able to detect more populations of this than past botanists because of extreme drought in 2016 and resultant ease of access to swamps. This species replaces *C. leptalea* as pH becomes more acidic and replaces *C. canescens* as shading increases. In a few places, especially where shrub cover becomes thin, it tends toward what some authors call *C. billingsii* or *C. trisperma var billingsii*. However, the variation appears to be continuous and it never quite reaches the extremely narrow leaf width that purportedly differentiates this dubious taxon.

Carex trisperma, Chamberlin Woods

Carex trisperma, Carlisle Swamp in Estabrook Woods

Section Griseae

Carex conoidea Schkuhr ex Willd. [NEBC: Hoar, no date at Ball's swamp]

> I found this to be scarce, only seeing it near a path behind the Old Manse and in a field at Macone Farm Lane. These two sites do not share soil or habitat characteristics. Eaton says it is "uncommon" in "meadows and grassy swales."

Carex conoidea, near Macone Farm Lane

Carex conoidea, near Macone Farm Lane

Section Heleoglochin

Carex prairea Dewey [NEBC: Thoreau, 1859 at Clam Shell Meadow]

> I did not find this, despite an intense search near Brister's Spring (where Hoar collected it) and a check at the remnants of Clam Shell Bluff, where Thoreau saw it. High-pH soil (which this species requires) has essentially disappeared from both of these sites, making it likely extirpated.

Section Hymenochlaenae

Carex arctata Boott [NEBC: Winstanley, 2016 at north-northwest foot of Annursnac Hill]

This is very rare, not seen in Concord until my collection in 2016. I found small (about 15 plants) but vigorous colony of this on the northern slope of Annursnac Hill. My collection is the first in Middlesex County since an 1885 collection in the vicinity of Mt. Watatic.

Dimorphic leaves of *Carex arctata*, North Slope of Annursnac Hill

Carex arctata, from North Slope of Annursnac Hill

Stipitate perigynia of *Carex arctata*, from North Slope of Annursnac Hill

Carex debilis Michx. [NEBC: Thoreau, 1859 without location but probably near Owl's Nest Swamp where he collected other species that day]

> This is very common in all low woods, as well as some disturbed, brushy areas and shady fields. It is especially fond of wet spots near seeps and streams in woods, as well as trailsides. Eaton calls it "very common."

Carex debilis near Bateman's Pond

Carex gracillima Schwein. [NEBC: Hoar, 11 June in river meadow at Conantum Cliff]

This is frequent in mesic to wet, rich woods, usually near trailsides, seeps, or other moist spots. It is taller than and requires higher-quality soil than *C. debilis*. It is found at every station for *C. laxiculmis*, but occurs in a few places without that species (e.g. behind the Old Manse and at the White Pond Marlboro outcrop). Eaton calls this “rather common” in “dry or moist woods, meadows.”

Carex gracillima near The Old Manse

Section Laxiflorae

Carex blanda Dewey [BRU: Eaton, 1959 in deciduous woods on dry, rocky slope at southern foot of Annursnac Hill]

I found this to be locally common in the vicinity of the river confluence. Elsewhere, it appears to be infrequent on rich trailsides, for example at the cul-de-sac on Sandy Pond Road, the southern slope of Annursnac Hill, Estabrook Road, a dirt road between Cambridge Turnpike and Lexington Road, the Willow Guzzle Reservation, and next to Elymus hystrix at the parking lot to the Town Forest. Eaton agrees, listing it as "uncommon."

Carex blanda near Concord Lumber

Carex blanda near Concord Lumber

Carex laxiflora Lam. [NEBC: Eaton, 1932 in dry leaf mold on the talus slope at Conantum Cliff]

This is frequent in Estabrook woods, with more than ten stations there. Outside of Estabrook Woods, I found this in only two places: the northern slope of Annursnac Hill and the Reformatory Branch trail near the Bedford line. It has also been collected from Conantum Cliffs, which is expected since it is common at the cliffs at Bateman's Pond. Eaton says this is uncommon, but it is evident today that this species does not occur with the same frequency as *C. blanda*. Dr. William Brace collected this in the same location where I saw it near the Bedford line.

Carex laxiflora near Bateman's Pond

Carex laxiflora along Reformatory Branch trail near Bedford line

Section Leptocephalae

Carex leptalea Wahlenb. [NEBC: Thoreau, 1859 at Great Meadows]

I found this to be frequent in mature, muddy, wooded to partly open swamps. This contradicts Eaton's characterization as "rare." A few significant populations among the eleven stations I found were Thoreau's Botrychium Swamp and Well Meadow Head (both sites where Thoreau notes it), streamsides from Brister's Spring to Fairyland Pond, andin muddy woods in the Willow Guzzle Reservation. This species replaces *C. trisperma* as pH becomes more sub-acid or circumneutral.

Carex leptalea, Chamberlin Woods

Carex leptalea, Estabrook Woods

Section Lupulinae

Carex intumescens Rudge [NEBC: Thoreau, no date but probably 1858 near the Sudbury River]

I found this to be common in many of the same places as *C. crinita*: shaded, leaf-littered riverbanks, swales, and other wet, shaded spots where this species is often the tallest member of the understory vegetation. Eaton agrees and calls it "common" in "moist open woods and meadows, swales."

Carex intumescens, near The Old Manse

Carex intumescens, southeast corner of Barrett's Mill Farm

Carex lupulina Muhl. ex Willd. [NEBC: Hoar, no year near Egg Rock]

This is frequent in the river meadows, particularly in the vicinity of the confluence. It is frequently in more open situations or among denser vegetation than *C. intumescens*. Eaton calls it “frequent.”

Carex lupulina, French’s Meadow

Section Multiflorae

Carex annectens (E.P. Bickn.) E.P. Bickn. [NEBC: Eaton, 1936 grassy shore of Goose Pond and anotherin 1934 with no locality.]

I found this to be frequent to common, found in mesic to wet soils most often with partially filtered light, disagreeing with Eaton's "dry or moist often open, sandy soils." Examples of appropriate habitat include low wood roads and wooded to open river and brook meadows. I saw this at Old Calf Pasture, a dirt road near Lexington Road, Great Meadows, near the Concord River at Liberty Street, and at other places.

Carex annectens, no loc

Carex vulpinoidea Michx. [NEBC: Hoar, no year at a brookside]

I found this to be common. It is one of the wetland generalists that appears to tolerate lower-quality water, and it is abundant in most of Concord's full-sun wet meadows, more rarely found in drier or sandy situations. Eaton notes it particularly in pond and stream margins. For example, it is abundant at Macone Farm Lane and many locations in the East Quarter.

Carex vulpinoidea, near Macone Farm Lane

Carex vulpinoidea, near Elm Brook in National Park land

Section Ovales

Carex alata Torr. [MASS: Jarvis, 1835 in meadows near Fairhaven Bay]

I found this in just two partly-shaded wetlands: Well Meadow and near the old growth *Pinus strobus* in the Town Forest. These two stations, except for sun exposure, are fairly dissimilar. Eaton calls this “occasional” in “low open woods, meadows, swamps.”

Carex alata, Well Meadow Head

perigynia of *Carex alata*, Town Forest

Leaf sheath of*Carex alata*, Town Forest

Spikes of *Carex alata*, Town Forest

Spikes of *Carex alata*, Town Forest

Carex argyrantha Tuckerman ex Dewey [NEBC: Jenks & Swan, 1888 near Bateman’s Pond]

I did not find this. Eaton calls it “rare.” Dr. William Brace collected this near the railroad tracks at Walden Pond in the late 1990s, but I did not find it after searching there.

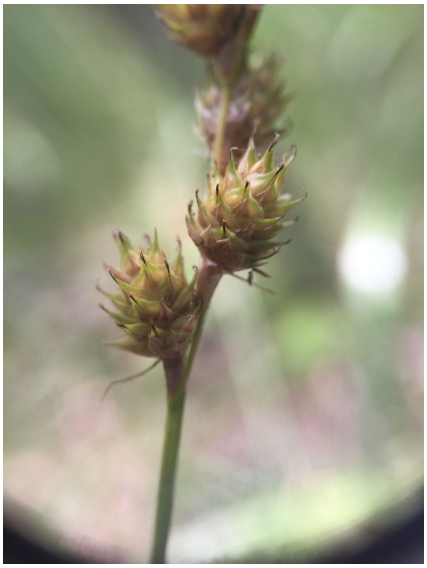
Carex brevior (Dewey) Mackenz. [NEBC: Winstanley, 2016 near intersection of Fitchburg Railroad and Acton town line]

I found this species in two dry, sterile, and rarely mown fields: one just north of Newbury Field and one along the railroad tracks at the Acton town line. Eaton lists this and calls it "common" on "dry, open ground." However, his voucher is a specimen that Thoreau collected in New Hampshire (Angelo, 2016 *fide* Thoreau, 1858). Angelo does not list this for lack of an acceptable voucher specimen. I collected this from the railroad location on July 1, 2016.

Perigynia of *Carex brevior*, near Newbury Field

Spikes of *Carex brevior*, near Newbury Field

Perigynia of *Carex brevior*, near Fitchburg railroad and Acton line



Spikes of *Carex brevior*, near Fitchburg railroad and Acton line

Carex cumulata (L.H. Bailey) Fern. [NEBC: Thoreau, 1859 at Hubbard's Grove]

I did not find this, and it has apparently not been seen since Thoreau's collection. Eaton calls it "rare" in "dry to boggy acid soils, mostly open ground."

Carex longii Mackenzie [NEBC: Eaton, 1930 on boggy turf at the Concord Country Club.]

> I did not find this. Eaton calls it “rare” in “wet or damp, peaty or shady soils.” The location of his voucher, the Concord County Club, has since been destroyed.

Carex merritt-fernaldii Mackenzie [Brace (not yet in herbarium) at Minuteman Park musterfield]

> I found this to be very rare, with only a few plants near *C. brevior* near Newbury Field. In that location, it was in a more shaded and richer part of the field. Dr. William Brace also collected this from “Minuteman Park musterfield,” which would be near the Old North Bridge. I did not collect this. Eaton does not list it.

Spikes of *Carex merritt-fernaldii*, near Newbury Field

Leaf sheaths of *Carex merritt-fernaldii*, near Newbury Field

Perigynia and scales of *Carex merritt-fernaldii*, near Newbury Field

Spikes of *Carex merritt-fernaldii*, near Newbury Field

Carex molesta Mackenzie ex Bright [NEBC: Eaton, 1934 in mossy field behind Old Manse]

> I did not find this. Eaton calls it very rare in “dry to moist open fields, borders of woods.” Eaton collected this and his identification was confirmed (separated from the very similar *C. brevior*) by M. L. Fernald. Concord remains the most northeastern locality for this species, as Eaton noted in 1974.

Carex normalis Mackenzie [NEBC: Eaton, 1947 at border of wagon road on side of Annursnac Hill]

> I found this in a variety of locations: a dry field at Kaveski Farm Conservation Land, a wet field at Macone Farm lane, and seepy, sterile woodland near Sandy Pond Road and Route 2. Each location had fewer than 7 plants. Eaton agrees with the habitat variety and calls it “not common.”

Rosette-like spikes of *Carex normalis*, Kaveski Farm Conservation Land

Spikes of *Carex normalis*, Macone Farm Lane

Carex normalis, Macone Farm Lane

Carex projecta Mackenzie [NEBC: Eaton, 1959 along shady bank of the Assabet River at edge of woods]

I found this to be uncommon, with a diffuse population in western Estabrook Woods and a small population along the Reformatory Branch Trail. Eaton agrees in frequency and habitat, calling it “uncommon” in “moist to wet woods, shaded streambanks.” All stations for this species are not far from populations of *C. laxiflora*.

Carex projecta, Reformatory Branch trail at Great Meadows

Perigynium of *Carex projecta*, Botrychium Swamp in Estabrook Woods

Carex projecta, Botrychium Swamp in Estabrook Woods

Carex projecta, near Bateman’s Pond

Carex scoparia Schkuhr ex Willd. [NEBC: Eaton, 1921 at edge of Gowing's Swamp]

This is very common, found in any sunny or mostly sunny wetland or moist field except for sphagnum bogs. I found it occasionally in dry spots as well, such as on a shoulder of Fairhaven Cliffs. Eaton calls it "very common." This species apparent tolerates water of lower quality than many other *Carex*.

Carex scoparia, behind Concord District Court

Carex scoparia, near Elm Brook on National Park land

Carex tenera Dewey [NEBC: Eaton,1932 on a dry wood road at Conantum]

I found this species to be infrequent in shaded or partly shaded, muddy soils near the rivers. I found it, for example, near Musketaquid Road and on the bank of Fairhaven Bay. Eaton calls it “common,” in a wider variety of habitats.

Perigynia and scales of *Carex tenera* from Musketaquid Road

Spikes of *Carex tenera*, southeast corner of Barrett’s Mill Farm

Spikes of *Carex tenera*, southeast corner of Barrett’s Mill Farm

Carex tribuloides Wahlenb. [NEBC: Deane, 1887 at Great Meadows]

I found this species in many of the same habitats as *C. scoparia*, but less commonly. It seems to prefer more acidic wetlands and more frequently submerged sites than *C. scoparia*. It is abundant in the Goose Pond area, the White Pond area, and also in river meadows such as French’s Meadow and Great Meadows. It tolerates shade. Eaton calls it “rather common.”

Spikes of *Carex tribuloides*, Goose Pond

Section Vulpinae

Carex stipata Muhl. ex Willd. [NEBC: Hoar, 1858 (immature specimen); NEBC: L.H. Bailey, 1886]

In agreement with Eaton, I found this to be common in wet meadows and wooded wetands, usually muddy and without sphagnum (sub-acidic). It is very commonly associated with *Boehmeria cylindrica*, but can also tolerate more sunny conditions than *B. cylindrica*. A few of the places I saw it were in swampy glades in Chamberlin Woods, near the fen just south of Lexington Road, Well Meadow, Azalea Brook, Kaveski Farm, and Old Calf Pasture.

Spike of *Carex stipata*, Chamberlin Woods

Spikes of *Carex stipata*, near Elm Brook on National Park land

Section Stellulatae

Carex atlantica L.H. Bailey [NEBC: Hoar, no year, near Oak Meadow]

Eaton notes this as uncommon as *C. howei* and rare as *C. incomperta*, generally in sphagnum bogs or mossy woods. I found it to be frequent, mostly in open acidic wetlands and shaded sub-acidic to neutral wetlands. It is particularly common in the Mink Pond vicinity, where Hoar collected it, but I also found it in Fairyland Pond, Chamberlin Woods, a few wetlands near Annursnac Hill, Well Meadow, and other places.

Spikes of *Carex atlantica*, Chamberlin Woods

Serrulate margins of perigynium beak of *Carex atlantica*, Chamberlin Woods

Carex echinata Murr. [NEBC: Hoar, no date at (under?) Lee's Cliff]

Eaton notes this as common as *C. cephalantha* and frequent as *C. angustior* in "peaty swamps, woods, meadows and shores." I found it to be more uncommon to frequent, perhaps owing to the succession of many sandy, open wetlands since Eaton's time. It is quite abundant in peaty sand at Macone Farm Lane, and otherwise can be found in the vicinity of Well Meadow, in sphagnum at the fen near Lexington Road, and amongst *Picea rubens* near the Acton Line and Fitchburg Railroad.

Spikes of *Carex echinata*, near Lexington Road

Cespitose growth form of *Carx echinata*, near Macone Farm Lane

Carex exilis Dewey [GH: Tuckerman, no date along Concord Turnpike; Hoar, no date and Hoar, 1890 both at foot of Annursnac Hill]

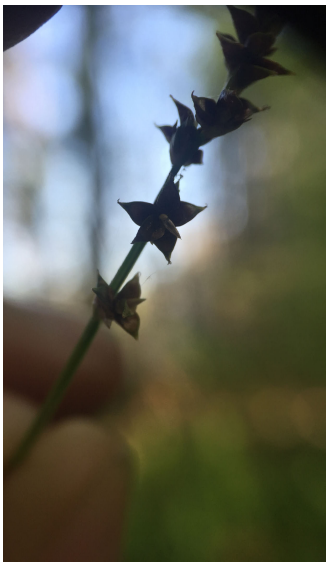
Eaton says this is rare in "sphagnum bogs, open peaty meadows and swamps." This species has apparently been found only in a sphagnous meadow at the south foot of Annursnac Hill and in a swamp along the Concord Turnpike, no doubt Crosby's (or G. Root's) Pond. Thoreau also considers this species in identifying a sedge along the river. Both of the definitive sites have been ruined in recent years, and I searched and could not find this species in other swamps along the Concord/Cambridge Turnpike. I would rule it likely extirpated.

Carex seorsa Howe [NEBC: Hunnewell, 1915 in a swamp; Winstanley, 2016 in swampy glade in Chamberlin Woods]

> Eaton says this is rare, and does not give habitat. Before this year, the only record of this species in Concord was a single collection from 1915 without specific location, since Eaton's 1961 specimen was re-identified as *C. echinata*. I found this to be dominant in a single sandy, acid to sub-acid swamp in eastern Estabrook Woods. I also found a few plants in Chamberlin woods, four plants in Thoreau's Yellow Birch Swamp, and one plant near the Thoreau Factory Mill Site. It is apparently absent outside Estabrook Woods. I collected this on June 10th from the Chamberlin Woods site.

Cespitose growth form of *Carex seorsa*, Estabrook Woods

Spikes of *Carex seorsa*, Chamberlin Woods



Smooth perigynium margins of *Carex seorsa*, near Thoreau Pond in Estabrook

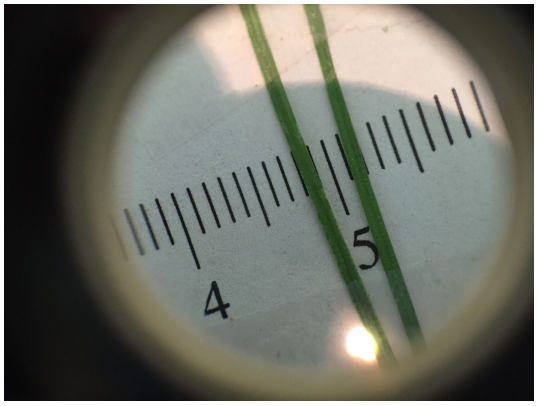
Inflorescence *Carex seorsa*, near Thoreau Pond in Estabrook

Cespitose growth form of *Carex seorsa*, Estabrook Woods near Hubbard Hill

Section Phaestoglochin (note that Gray's Manual has a number of taxonomic errors and irregularities in this section. See Haines (2011) for reference.)

Carex appalachica J. Webber & P.W. Ball [Winstanley, 2016 in swampy glade in Chamberlin Woods]

> Eaton says this (as *C. radiata*) is locally rather common in swamps. His collection from sphagnous woods near Kalmia Swamp appears to be this species (per my examination), though it was in the *C. radiata* folder. I found this species to be infrequent and local on sphagnous hummocks in swamps, seeing it in Chamberlin Woods, Well Meadow, and in a swamp near to the *Calla palustris* along Cambridge Turnpike. I collected this from Chamberlin Woods on June 10th.



Very narrow leaves of *Carex appalachica*, collected from Chamberlin Woods

Carex cephalophora Muhl. ex Willd. [NEBC: Hoar, no date on a rocky bank above witch-hazels in Conantum]

> I found this to be frequent, agreeing with Eaton's "frequent" in "dry woods, openings, [and] mowings." I found it especially common on rocks in woods, and more infrequent in dry, sandy sites, late-mown fields, and trailsides. For example, it can be found on rocks southwest of White Pond and also near Strawberry Hill Road, sand near the parking lot for Great Meadows NWR, and with grasses near the Chamberlin Woods trailhead. Generally there are only a few individuals in each population.

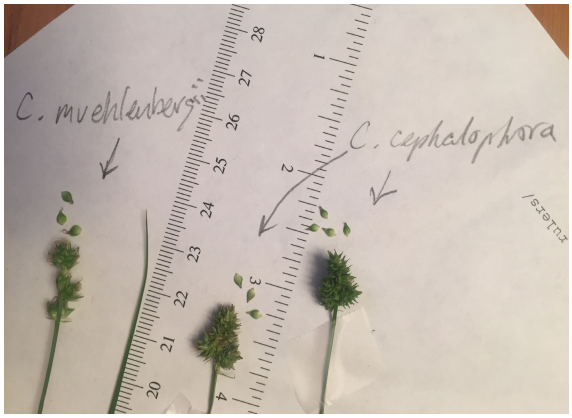
Spikes of *Carex cephalophora* near Bemis Cliffs

Spikes of *Carex cephalophora* near Great Meadows parking lot

Carex muehlenburgii Schkuhr ex Willd. [NEBC: Thoreau, 1859 at “Baker’s Rock;” 1860 at Clam Shell Hill]

I found this to be uncommon, certainly finding it less frequently than the preceding species. Eaton disagrees, calling it “rather common” in “dry woods and fields.” Natural dry sites are much less common now than in Eaton’s time, perhaps accounting for the discrepancy. I found it with *C. brevior* near the Fitchburg Railroad, at the Wastewater Treatment Plant, at Annursnac Hill (where Thoreau notes it), near the cul-de-sac on Sandy Pond Road, and at the Willow Guzzle Reservation.

Spikes of *Carex muehlenburgii*, near Acton town line and Fitchburg Railroad



Spikes of *Carex muehlenburgii* (left) from Conantum and *Carex cephalophora* (center and right) from near Strawberry Hill Road

Carex radiata (Wahlenb.) Small [no valid specimen; see below]

This is frequent to locally abundant in openings and along trails in low woods, especially near the rivers. I saw significant populations near the Old Manse, at the Old Calf Pasture, under Fairhaven Hill, and elsewhere. There is currently no voucher for this species in Concord, owing to confusion with this species complex in the 8th Edition of *Gray’s Manual of Botany*. A voucher specimen will be collected next year.

Spikes of *Carex radiata* near the Old Manse

Mat of *Carex radiata* near the river confluence

Carex retroflexa Muhl. ex Willd. [NEBC: Eaton, 1959 on dry, rocky wooded slope opposite Martha's Point]

This is rare. I found it only on a wooded slope west of Fairhaven Hill not far from a trail. This could be the same site as Eaton's collection across the river from Martha's Point, but it is about a half mile north of Martha's Point. In addition, Eaton collected this twice on the Marlboro Formation, but I did not find these sites perhaps because I did not cover Conantum Cliffs.

Spike of *Carex retroflexa* near Fairhaven Hill

Spike of *Carex retroflexa* near Fairhaven Hill

Smooth perigynium margins of *Carex retroflexa* near Fairhaven Hill

Carex rosea Schkuhr ex Willd. [NEBC: Thoreau, 1860 at "Flint hedge under Hickory"]

I found this to be common and a good indicator of relatively rich soil, agreeing with Eaton's assessment of "common" (as *C. convoluta*). I found it, for example, at Annursnac Hill, southwest of White Pond, near the site with native *Acer saccharum*, and near the Bemis Cliffs, among a number of other locations.

Spike of *Carex rosea* near Bemis Cliffs

Carex spicata Huds. [NEBC: Eaton,1963 on southeast side of Annursnac Hill, near the summit west of stone wall]

> I did not find this. Eaton says it is “scarce,” noting it in “dry fields, roadsides [and] orchards” habitats which have declined significantly since his time. However, Dr. William Brace collected this in a meadow at 49 Liberty Street in the late 1990s, suggesting that it probably still lurks in some fields around town.

Section Racemosae

Carex buxbaumii Wahlenb. [NEBC: Hoar, 1858 near Egg Rock]

> The only station I found for this was about 75 to 150 plants in an acidic part of Old Calf Pasture. This population is probably related to the one Hoar found near Egg Rock. Searches at other previously known sites have revealed soil changes that must have eradicated this species. Eaton, however says it is uncommon. His specimen from 1932 appears to have been lost and/or re-identified (although this species is reasonably distinctive).

Spikes of *Carex buxbaumii* at Old Calf Pasture

Spike of *Carex buxbaumii* at Old Calf Pasture

Section Porocystis

Carex hirsutella Mackenzie [NEBC: Eaton, 1957 dryish woods in Chamberlin Woods]

I did not find this, though I did not search specifically for it. Eaton says it is very rare. Haines notes that this species prefers circumneutral substrate, a habitat which is rare in Concord. Concord represents a northeastern extreme of this species's range. Dr. William Brace collected this at Great Meadows, but the identity of his specimen has not been confirmed.

Carex pallescens L. [NEBC: Hoar, no year]

I found this to be frequent: found in many locations but each usually with just a few individuals. Eaton says it is "common." I saw it in a variety of habitats, including a stream crossing on a trail in the Bemis Woods, a grassy opening near Liberty St., and open, moist woods near Lexington Road.

Spikes of *Carex pallescens* at Lowell Road causeway

Carex swanii (Fern.) Mackenzie [NEBC: Hoar, no year]

This is very common. It is most frequent in wooded thickets, but also tolerates more shaded woods, trailsides, and more uncommonly open, moist areas. Eaton agrees and calls it “common.”

Spikes of *Carex swanii* at Lowell Road causeway

Growth habit of *Carex swanii* at Lowell Road causeway

Carex virescens Muhl. ex Willd. [NEBC: Eaton, 1959 dry wood road east side of Bateman’s Pond]

This is certainly less common than *C. swanii*, but the presence of apparently intermediate individuals makes the abundance of this species unclear. It is at least uncommon, and I saw individuals that were very clearly this species in a variety of habitats, from a wooded swamp in the Chamberlin Woods to talus under Fairhaven Cliffs. It is more frequent in the drier areas, in agreement with Eaton’s habitat note of “dry woods and thickets.”

Spikes of *Carex virescens* at the base of Fairhaven Hill

Section Paludosae

Carex lacustris Willd. [Hoar, no year in Sudbury River meadow near Nashawtuc Hill]

This is very rare, found only in a small, circumneutral fen at the heart of Estabrook Woods. In this location, it is abundant over about a fifth of an acre. Eaton says it is "rare." It apparently has not been seen since Hoar's collection.

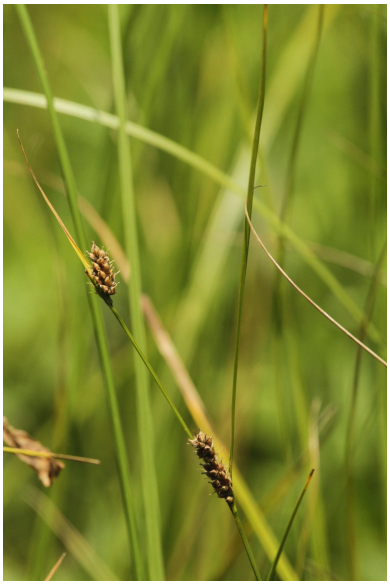
Spike of *Carex lacustris* in Estabrook Woods

Spikes of *Carex lacustris* in Estabrook Woods

Perigynia of *Carex lacustris* in Estabrook Woods

Carex lasiocarpa Ehrh. [UMASS: Jarvis, 1835 in "Concord Meadows"; NEBC: Hoar, no year]

I found this to be scarce in sedge-dominated (not shrub-dominated) boggy meadows. It is common in parts of Old Calf Pasture and Heywood's Meadow. It is probably also present on the sphagnum mat at Ball's Swamp. Eaton calls it "frequent."



Spikes of *Carex lasiocarpa* at Heywood's Meadow

Leaves of *Carex lasiocarpa* at Heywood's Meadow

Spikes of *Carex lasiocarpa* at Old Calf Pasture

Carex pellita Muhl. ex Willd. [NEBC: Thoreau, 1859 Smith's Shore (determined by L.A. Standley)]

I found this to be rare, occurring in two small, open, gravelly sinkholes, both in pine-oak woods. This completely contradicts Eaton's characterization as "common" in "wet meadows, swamps, shores." Since this species is known as a wetland obligate, I have deposited my own specimen from a dry Brister's Hill site in the NEBC for future confirmation (or re-identification). In both of my sites, it co-occurred with *C. vestita*.

Spikes of *Carex pellita*, near Acton town line and W. R. Grace EPA site

Carex vestita Willd. [NEBC: Hoar, no year]

I found this to be scarce, occurring in five locations and each with only one or a few fertile stems. Three of these locations are in dry soil just a few meters from a wetland. Eaton calls this "common." Its apparent decline is likely related to the general disappearance of dry, sandy habitats. Many infertile *Carex* plants in dry woods appear to be this species—these plants (which are quite common) could be the remnants of old populations.

Spikes of *Carex vestita* near railroad tracks and Sudbury town line

Spikes of *Carex vestita* near bog across railroad from Heywood's Meadow

Section Rostrales

Carex folliculata L. [NEBC: Thoreau, no year at Hubbard's Grove]

This is frequent in shaded acid swamps and swales, often in the same places as *C. trisperma*. However, it also occurs near running water, not just standing water as in *C. trisperma*. Eaton also notes it in "peaty meadows." A few places I saw it were in Estabrook Woods in Carlisle Swamp, near the fen south of Lexington Road, and near the old growth *Pinus strobus* south of Cambridge Turnpike.

Spike of *Carex folliculata* in Estabrook Woods

Spikes of *Carex folliculata* near Lexington Road

Section Vesicariae

Carex bullata Schkuhr ex Willd. [NEBC: Thoreau, 1859 at Great Meadows]

I found this to be common in peaty or acid patches in meadows, and wetter spots in the quaking sphagnum bogs, for example at Macone Farm Lane and Owl's Nest Swamp. It is more unusual in more rocky, sub-acid meadows such as near the Hanscom gate 13A driveway, and also in acidic forested swamps such as Ministerial Swamp.

Spikes of *Carex bullata* near Macone Farm Lane

Spikes of *Carex bullata* near Macone Farm lane

Carex lurida Wahlenb. [NEBC: Thoreau, 1859 at Clamshell Meadow]

This is very common (Eaton agrees), perhaps our most common wetland *Carex*: it seems to be just about everywhere, ready to trick botanists with its highly variable appearance. It is present in both fully open (as at Kaveski Farm) and very dark conditions (as at a seep on the south slope of Annursnac Hill). It is absent from the most acidic wetlands, such as quaking bogs, but it can tolerate a fair amount of acid, sometimes co-occurring with *C. bullata*.

Spike of *Carex lurida* near Elm Brook on National Park land

Spikes of *Carex lurida* at Annursnac Hill

Carex oligosperma Michx. [NEBC: Hoar, no year in the "wet part of Ball's Swamp," presumably the acidic swamp just north of Ball's Hill]

I have not found this in Concord, but I suspect it is likely on the (recently re-formed) sphagnum mat at Ball's Swamp, which I have not checked due to access problems. It historically occurred in that location, and these acid substrates next to rivers are the preferred habitat of this species throughout New England per my observations. I found this just across the river from Ball's Swamp in 2015, but that location is in Bedford. It has not been recorded elsewhere in Concord and is currently listed as Endangered in Massachusetts.

June 24, 2015: *Carex oligosperma*, Great Meadows NWR, Bedford, Mass.

Carex utriculata Boott [NEBC: Thoreau, 1859 at Great Meadows, near Holbrook meadow]

I found this to be infrequent in various grassy meadows. It is easily seen in the river meadows. This species shows considerable variation, between a very robust form (over 1.75m tall) in the circumneutral fen in Estabrook Woods to a relatively diminutive (40cm tall) form in the acid fen near Lexington Road and intermediates in the river meadows. Eaton calls *C. rostrata var utriculata* frequent, but *C. rostrata var rostrata* common. Eaton's reference to *C. rostrata var rostrata* is in error, since that species does not occur in Massachusetts. It probably refers to this variable species.

Spikes of *Carex utriculata* at Old Calf Pasture

Spikes of *Carex utriculata* at Old Calf Pasture

Robust form of *Carex utriculata* in Estabrook Woods

Carex comosa Boott [NEBC: Thoreau, 1859 near Moore's Swamp]

I found this to be frequent, found in many of the same places where one would find beavers. For example, it is common near the opening of Mill Brook into the Concord River and at Well Meadow Head. Eaton says this is "common" in "meadows and swamps."

Spikes of *Carex comosa* near Old Manse and Concord River

Spikes of *Carex comosa* near Old Manse and Concord River

Carex pseudocyperus L. [NEBC: Winstanley, 2016 on muddy bank of Fairyland Pond]

Eaton did not find this (he lists it as very unlikely in Concord), but William Brace collected it from Fairyland Pond in the Town Forest in the late 1990s. I found this to be frequent invarious substrates in the wetland complex extending from Brister's Spring to CambridgeTurnpike. I collected it from a mud mound on the beaver-deterring device at Fairyland Pond. I suspect that this is the only locale in town for this species.

Spikes of *Carex pseudocyperus* near Fairyland Pond

Spikes of *Carex pseudocyperus* (top two) and *Carex comosa* (bottom two) near Cambridge Turnpike

Carex vesicaria L. [NEBC: Hoar, no year in a river meadow at Conantum]

I found this to be infrequent in river and stream floodplains, often in more shaded situations than *C. utriculata*. In addition to others, I found three stations in the vicinity of the river confluence. It often grows in otherwise sparsely vegetated spots, particularly where the ground is covered by *Acer saccharinum* leaves. Eaton calls it rather common.

Leaves and spike of *Carex vesicaria* near Liberty St. and the Concord River

Spikes of *Carex vesicaria* behind the Dept. of Public Works near the Sudbury River

Section Phacocystis

Carex crinita Lam. [NEBC: Thoreau, 1858 at Egg Rock]

I found this to be common, particularly in shaded or partly shaded (rarely fully open) riverbanks, swales, river meadows, and floodplains, but also in other wet spots such as ditches near railroad tracks in a few locations. This species has hundreds of stations but many of them consist of just a few plants. Eaton lists this among the most common sedges in the river meadows.

Spikes of *Carex crinta* near the Old North Bridge

Carex gynandra Schwein. [Eaton, 1932 in a wet meadow at G. F. Root's Farm (current-day vicinity of Crosby Pond)]

I found this to be very rare, only coming across a single clump in a swale just southeast of the new interchange between Route 2 and Sandy Pond Road despite checking hundreds of *C. crinita* plants for this species. This station was just about a hundred feet from the Lincoln town line. Eaton collected this from near G. Root's farm in 1932, a site which no longer exists but which is in the vicinity of my sighting. However, Eaton lists this (as *C. crinita var gynandra*) as "common," puzzlingly. Dr. William Brace has this labeled in his collection as from Concord, but the identity of his specimen has yet to be verified.

Spikes of *Carex gynandra* near Crosby's Corner

Perigynia of *Carex gynandra* near Crosby's Corner

Carex haydenii Dewey [NEBC: Hoar, no year in Conantum]

I found this to be frequent in the river meadows and other wet, open marshy situations. In a few places, for example near the Lowell Road causeway and Cambridge Turnpike, it is dominant over a large area. It does not tolerate shade as well as *C. stricta* and *C. nigra*, perhaps limiting its distribution. Eaton calls it occasional.

Carex haydenii near Old North Bridge

Meadow of Carex haydenii near Lowell Road

Carex nigra (left) and *Carex haydenii* (right) near Concord River across from Liberty St.

Carex nigra (L.) Reichard [NEBC: Thoreau, 1859 in Stow's Meadow near railroad]

This species apparently occurs as two forms in two different sets of habitats in Concord. A cespitose form with elongate spikes similar to *C. stricta* is found in rich, wet, shaded spots, such as Fox Castle Swamp in the Chamberlin Woods and in the Town Forest. A second form with stout spikes and habit, a paler green color, and less cespitose habit occurs in mesic to wet fields, often in peaty or acidic situations, such as Old Calf Pasture and near the Conantum public gardens. Overall, it is infrequent. Eaton agrees, calling this species "uncommon" in "swamps, peaty turf, wet meadows."

Carex nigra (cespitose form) trailside at Fox Castle Swamp

Carex nigra (stout form) in field next to Conantum Community Gardens

Carex stricta Lam. [NEBC: Eaton, 1961 at west end of Heywood's Meadow]

This is the default *Carex* in this group, being common in all wetlands with standing water except the most acidic ones. It forms the familiar large tussocks in swamps such as those visible along Cambridge Turnpike. It is more of a generalist than *C. nigra* and *C. haydenii* and often occurs with one of those two species. Eaton calls it "very common."

Spikes of *Carex stricta* in Chamberlin Woods

Section Phyllostachyae

Carex backii Boott [NEBC: Winstanley, 2016 on glacial erratic or small outcrop in Chamberlin Woods-Bateman's Pond area]

> This is very rare. On May 28, 2016, I discovered the only known station in eastern Massachusetts on a rock outcrop near the Chamberlin Woods. The station consists of just a single clump. This species is endangered in Massachusetts.

Spikes of *Carex backii* near Chamberlin Woods

Carex backii plant near Chamberlin Woods

Excluded species:

Carex billingsii (O.W. Knight) Kirschenbaum (sect. Glareosae)

> This taxon is not considered a species or variety by most authors. Eaton collected "*C. trisperma var billingsii*" from Gowing's Swamp. These plants probably represent a tendency of *C. trisperma* to have narrower leaves in full sun. I have observed a continuum of sunlight-correlated variation between these two taxa in Carlisle Swamp in Estabrook Woods.

Carex festucacea Schkuhr ex. Willd. (sect. Ovales)

> Eaton collected this from near the Old Manse in 1934, but he oddly omits it from his own flora. Here I assume that this was intentional, perhaps due to identification concern.

Carex foenea Willd. (sect. Ovales)

> Listing of this species appears to stem from taxonomic confusion with *C. siccata*. Eaton's specimen is probably *C. siccata* because he listed it under *Carex* sect. Arenariae (now Ammoglochin).

Carex hirta L. (sect. Carex)

> This alien grows as an abundant weed in the gardens at the Buttrick Mansion (National Park land), but a wild occurrence has not yet been recorded.

Carex rostrataStokes (sect. Vesicariae)

Eaton lists this in error since it does not occur in Massachusetts; he likely refers to the variable *C utriculata*.

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